CLAIMS

1. A bone-marrow extraction and/or injection device (1) comprising:

- a grip zone (2); and
- a needle (10) presenting at least one side orifice (15);

the device being characterized in that a protective sleeve (20) surrounding at least part of said needle (10) is mounted to move relative to said needle (10) between a closed position of said at least one side orifice (15) and an open position of said at least one side orifice (15).

2. A device (1) according to claim 1, in which said protective sleeve (20) is mounted to turn about the needle (10).

3. A device (1) according to claim 1 or claim 2, in which said protective sleeve (20) includes at least one side opening (25) that is positioned substantially facing said at least one side orifice (15) of the needle (10) in the open position.

4. A device (1) according to any preceding claim, in which said needle (10) is fastened onto a needle holder (30), said needle holder (30) including reception means (34) that are suitable for co-operating with fastener means (22) of said protective sleeve (20).

5. A device (1) according to claim 4, in which said protective sleeve (20) comprises a first portion constituting a sheath (21) surrounding said needle, and a second portion comprising said fastener means (22).

6. A device (1) according to claim 4 or claim 5, in which said fastener means (22) include at least one claw that

is pivotally mounted, and that presents a manual actuation surface (23) and a projection (24).

7. A device (1) according to any one of claims 4 to 6, in which said reception means (34) of said needle holder (30) comprise at least one groove that is suitable for receiving at least one projection (24) of said fastener means (22) of said protective sleeve (20).

8. A device (1) according to any preceding claim, in which said device includes a mixing chamber (13) that is connected to said needle, and to at least one inlet channel (31) and at least one outlet channel (32).

9. A bone-marrow extraction system, characterized in that it includes a device (1) according to any preceding claim.

10. An extraction system according to claim 9, in which said system includes a mixing chamber (13) that is connected to said needle (10) of the device, and to at least one inlet channel (31) and at least one outlet channel (32).

11. An extraction system according to claim 10, in which an inlet channel (31) is connected to a source (40) of anticoagulant.

12. An extraction system according to claim 10 or claim 11, in which an outlet channel (32) is connected to a bone-marrow collection vessel (50).

13. An extraction system according to any one of claims 10 to 12, in which said system includes suction means connected at least to said needle (10).

14. An extraction system according to claim 13, in which said suction means (60) comprise a vacuum pump.

15. An extraction system according to claim 13 or claim 14, in which said suction means (60) are controlled by control means (90), such as a pedal that is actuated by the user.

16. An extraction system according to any one of claims 10 to 15, in which said inlet channel (31) projects into the mixing chamber (13) and towards said outlet channel (32), so as to create a Venturi effect.

17. An extraction system according to any one of claims 9 to 16, in which said system includes a timer device (80) for setting the duration of the bone-marrow suction stages.

18. A bone-marrow injection system, characterized in that it includes a device (1) according to any one of claims 1 to 8.

19. An injection system, in which said device (1) is connected to a bone-marrow reservoir, said reservoir being connected to dispenser means.

20. An injection system according to claim 19, in which said dispenser means comprise a pump, such as a syringe with an electrically-driven plunger, or a CO_2 pump.

21. An extraction and/or injection system according to any one of claims 9 to 20, in which said system is packaged in sterile manner.

* * *